

Listing of Claims

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Previously Presented) A method of calibrating a timer having a coarse measurement capability in which time intervals defined by time-interval boundaries are counted and a fine measurement capability in which time between time-interval boundaries is interpolated using a voltage ramp, comprising:
 - a. Aligning the voltage ramp relative to the time-interval boundaries;
 - b. Determining alignment of the voltage ramp relative to a reference-clock signal having a known relationship to the time-interval boundaries;
 - c. Sampling the voltage ramp at a plurality of known times relative to the time-interval boundaries; and
 - d. Determining slope of the voltage ramp as a function of time from the voltage samples,wherein aligning the voltage ramp comprises starting the voltage ramp at a defined number of periods of the reference-clock signal following coincidence of the interval-clock signal and the reference-clock signal.
6. (Previously Presented) A method of calibrating a timer having a coarse measurement capability in which time intervals defined by time-interval boundaries are counted and a fine measurement capability in which time between time-interval boundaries is interpolated using a voltage ramp, comprising:
 - a. Aligning the voltage ramp relative to the time-interval boundaries;
 - b. Determining alignment of the voltage ramp relative to a reference-clock signal having a known relationship to the time-interval boundaries;
 - c. Sampling the voltage ramp at a plurality of known times relative to the time-interval boundaries; and

- d. Determining slope of the voltage ramp as a function of time from the voltage samples,
wherein sampling the voltage ramp at a plurality of known times comprises: starting the voltage ramp following a first number of cycles of the reference-clock signal following coincidence of the interval-clock signal and the reference-clock signal, and sampling the voltage ramp at a subsequent clock edge of the interval-clock signal to obtain a first voltage sample.
7. (Original) The method of claim 6, wherein sampling the voltage ramp at a plurality of known times comprises: starting the voltage ramp following a second number of cycles of the reference-clock signal following coincidence of the interval-clock signal and the reference-clock signal; and sampling the voltage ramp at a subsequent clock edge of the interval-clock signal to obtain a second voltage sample.
8. (Original) The method of claim 7, wherein the interval-clock signal and the reference-clock signal are substantially out of phase with one another when voltage ramp is sampled.
9. (Original) The method of claim 8, further comprising determining from the phase relationship between the interval-clock signal and the reference-clock signal a time difference between the respective known times at which the voltage ramp is sampled to obtain the first voltage sample and the second voltage sample.
10. (Original) The method of claim 9, wherein determining slope of the voltage ramp comprises calculating the a ratio of difference in voltage between the second voltage sample and the first voltage sample to the time difference between the respective known times at which the voltage ramp is sampled to obtain the first voltage sample and the second voltage sample.
11. (Canceled)
12. (Canceled)
13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)